Notes on the Birds of the Three Kings Islands

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Since the account by Turbott and Buddle (1948), further observations on the birds of the Group have been made by Buddle (1948, 1949) —on South West Island, Stella Rock and Great Island—and Johnson (1950), who landed on the previously unexplored West Island in early January, 1950. Johnson found a colony of red-billed gulls on the highest point of the latter island (cf. Turbott and Buddle, *ibid*), and noted bell bird and red-fronted parakeet. He saw large numbers of petrel burrows on the main bush-clad slope of the island, but only a few could be examined as the visit was so brief. One burrow contained a young fluttering shearwater.

The following brief observations on the birds of Great Island were made on a visit by an Auckland Museum party in the Marine Department's M.V. "Ocean Star" from 10th-15th January, 1951.

Breeding of the black-winged petrel (*Pterodroma hypoleuca nigripennis*).

The black-winged petrel was discovered on Great Island by P. C. Bull on 3rd December, 1945, when some 24 birds were seen ashore at night at the eastern point of the island. At the Kermadec Islands the eggs are laid in late December and early January, so that it is probable that breeding had not yet reached this stage on Great Island. No further observations were possible at this time.

During the present visit, on 14th January, the black-winged petrel was seen ashore at the same point. During the day, the bare, soft ground beneath the scrub along the cliff-tops was examined, but no burrows of this species could be found amongst the numerous burrows of the fluttering shearwater (*Puffinus gavia*) and, in considerably smaller numbers, of sooty shearwater (*Puffinus griseus*). In the same locality, however, one isolated burrow was found in a small opening in the scrub, and proved to contain a sitting black-winged petrel and egg. The entrance was concealed beneath dense sedge, and outwardly was similar to recently formed burrows of the fluttering shearwater. The bird uttered a soft piping note repeated several times when first disturbed.

Internally the burrow consisted of a straight shaft of uniform diameter approximately 2½ feet in length, at the end of which was accumulated a quantity of dry sedge and other nesting material.

Feeding habits of the red-billed gull (*Larus novaehollandiae*) in relation to the dispersal of puka.

It was found during the present visit that red-billed gulls were feeding on cicadas. This observation is significant in view of the conclusion reached by Baylis (1948, 1951) that transport of seeds by the gulls has enabled the puka (*Meryta sinclairii*) to become established on

Great Island. The puka was absent, apart from one small sapling seen on the cliffs, before the destruction of goats on the island in 1946, but the seedlings appeared shortly afterwards. G. A. Buddle observed the gulls feeding eagerly on puka fruits on South West Island on 3rd January, 1947; and during the present visit droppings obtained on the inland rocks near the castaway depot on Great Island were found to contain seeds of puka and of ngaio (*Myoporum laetum*). It would evidently be possible for the gulls breeding on Great Island to bring seeds back from South West Island or North East Island, on both of which puka is plentiful. Or gulls coming from the breeding colonies on South West Island might bring seed to Great Island.

The transport of seeds of puka into the forest on Great Island requires some explanation other than voiding by gulls passing over the island. During the present visit gulls were seen from time to time hovering over the forest canopy, and it was found on further observation that they were attracted by the large cicada*, which was everywhere numerous and very noisy. The insects made somewhat clumsy flights through the trees, and, when they darted out into the open above the canopy, were caught in flight by the gulls. It also seemed probable that the gulls attempted to catch the cicadas singing on the higher branches.

Although only a few gulls might be observed hovering at any time, it was evident that they were regularly taking the cicadas. The observation was confirmed by the examination of droppings or castings which were found to contain remains of cicadas; and one of the insects was found on the ground still alive with the abdomen missing, having probably been dropped by its captor to the forest floor.

Visits to the Group have not been made regularly enough to provide observations on the arrival and departure of the gulls, but the colonies would probably be in occupation from approximately late August or early September until March, these being the times of arrival and departure recorded by Fleming (1946) at the Mokohinau Group: on the Three Kings the peak of nesting is apparently a little later than on the latter Group.

The cicadas, as is the case on the mainland, probably appears from approximately December to April. The song was not heard and the cicadas had apparently not yet begun to emerge on Great Island during the visit 30th November-6th December (1945) (*fide* A. W. B. Powell), nor were they recorded 13th April-16th May (1946). They were abundant during late February (1934) and early January (1951), and the greatest number would be taken during these months.

As described by Baylis (1951), seedling pukas occur most commonly above South East Bay, only an occasional young plant of this species being found elsewhere on Great Island. Baylis points out that this localised distribution would appear to be explained only in part by the nature of the soil and other environmental factors. Although gulls were seen over the forest at various points, including the upper Tasman Valley, the possible explanation might be suggested that gulls would more frequently take cicadas close to the coast than at any considerable distance inland. The slopes rising above South East Bay would be especially accessible as compared with other portions of the island.

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* *Melampsalta cingulata* (Fabr.).

General Observations

A grey duck (*Anas poecilorhyncha*) was seen on 11th January in the lower Tasman Valley, where it rose from one of the pools near the waterfall at the mouth of the stream. There has been no previous record of this species, and it is apparently a straggler to the Group.

In addition, the following land birds were recorded during this visit: spotless crake (*Porzana tabuensis*), brown quail (*Synoicus*), harrier (*Circus approximans*), morepork (*Ninox novaeseelandiae*), red-fronted parakeet (*Cyanoramphus novaezelandiae*), kingfisher (*Halcyon sanctus*), pipit (*Anthus novaeseelandiae*), fantail (*Rhipidura fuliginosa*), bell bird (*Anthornis melanura*), and starling (*Sturnus vulgaris*). The spotless crake, which had been glimpsed briefly on previous visits, was observed by Dr. Gilbert Archey, who saw one only momentarily on the forest floor in Tasman Valley.

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